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Swine Brucellosis

- HOW TO ERADICATE IT
- HOW TO VALIDATE
YOUR HERD AND AREA



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CAUSE OF SWINE BRUCELLOSIS

The bacterium known as *Brucella suis* is the principal cause of brucellosis in swine. Cattle and goats are affected primarily by *Brucella abortus* and *Brucella melitensis* respectively, but all three types affect swine and can be spread to other domestic animals and to man. Infected swine are now being incriminated as the source of human brucellosis in over 65 per cent of the cases reported annually.

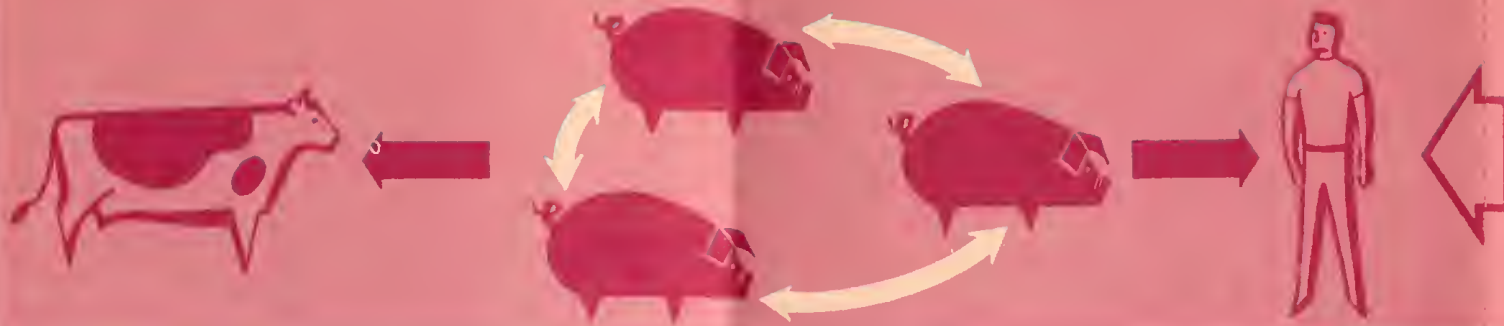
HOW THE DISEASE IS SPREAD

Brucella suis spreads from one hog to another and from swine to man. It may also spread from hogs to cattle or dogs and then to man.

Most human cases of brucellosis result from direct contact with infected hogs at the time of abortion, farrowing, or slaughter. Thus, farmers whose herds are infected and workers in slaughter houses handling infected swine are most likely to contract the disease.

Specifically it spreads by—

- Breeding gilts or sows to an infected boar. This is one of the most common methods of spreading brucellosis in swine. *Brucella* enters the reproductive tract of the gilt or sow during mating and becomes established in the uterus and may spread



HOW SWINE BRUCELLOSIS SPREADS

to other parts of the body.

- **Contact with infected animals.** Brucella enters the body through the mouth, skin, or mucous membranes. Thus, susceptible animals can be infected by direct contact with infected animals or by contact with aborted fetuses or discharges. Suckling pigs can get the disease from infected sow's milk, but they generally recover before reaching sexual maturity. They can be reinfected by later exposure, however.

- **Contaminated feedlots and pastures.** Hogs can be infected by contact with feed, water, or soil contaminated with urine or droppings from infected animals. Contaminated feed bags and trucks, and small streams heavily contaminated by drainage from adjacent infected premises are also possible sources of infection.

SIGNS OF BRUCELLOSIS IN SWINE

The signs of brucellosis are not a reliable guide for detecting the disease because they may vary from animal to animal, and, in some cases, do not appear at all. For this reason, brucellosis exists in many swine herds without being suspected.

Here are some of the symptoms:

- **Failure to settle:** Infected gilts and sows often come back in heat 4 to 8 weeks after breeding because of abortions which occur so early they are not noticed.

- **Abortions, weak pigs:** Abortions can occur at any stage of pregnancy. Birth of still-born or weak pigs also is common. Sows that have aborted once, usually farrow normal litters thereafter, even though they

remain carriers and spreaders of the disease.

- **Lameness, stiffness of joints:** Infection sometimes localizes in joints and bones, causing joint swelling, lameness and posterior paralysis.

- **Sterility:** Brucellosis can cause either temporary or permanent sterility in both sows and boars.

Don't wait for the signs of brucellosis to appear in your herd. Blood test all breeding animals on an annual basis. Your veterinarian can obtain blood samples for all breeding animals in your herd and will have them tested for brucellosis.

HOW TO PREVENT INFECTION

- Add only breeding stock purchased from Validated Brucellosis-Free herds or from negative herds in Validated Brucellosis Free Areas. If purchases are made from other sources, blood test all additions at time of purchase and isolate them from the main herd. Retest the additions 60 days later. Isolation and retest will provide some protection against introduction of brucellosis into your herd.

- Have all sows and boars identified by an approved tattoo system when marketed so they can be blood sampled at slaughter under the Market Swine Testing (MST) program and tested at the cooperative State-Federal brucellosis laboratory for detection of infection.

TREATMENT

No effective treatment has been developed for swine affected with brucellosis.

HOW TO ERADICATE BRUCELLOSIS FROM AN INFECTED HERD

If you find infection in your herd, there are three plans of eradication you can follow. The plan you choose will depend on your individual operation.

PLAN 1. Recommended for commercial herds.

1. Market the entire herd for slaughter.
2. Clean and disinfect houses and equipment.
3. Restock with animals from Validated Brucellosis-Free herds, placing them on ground that has been free of swine for at least 60 days.

PLAN 2. Recommended for herds when it is desirable to retain valuable bloodlines or strains.

1. Separate pigs of desirable bloodlines or strain from sows at 42 days of age or younger, and isolate. The isolated weanling pigs can form the nucleus for establishment of a brucellosis-free herd.
2. Market the infected herd for slaughter. Infected sows should not be rebred. Complete isolation of infected animals is essential.
3. Test the retained gilts and boars about 30 days before breeding. Breed only the gilts that are negative. Breed only to boars free of brucellosis. Send remaining gilts and boars to slaughter.
4. Retest the gilts after farrowing and before removing them from individual far-

rowing pens. Should reactors be found, they should be segregated from the remainder of the herd and sent to slaughter as soon as possible. Retain only pigs from negative sows.

5. If reactors are found in Step 4, repeat the steps in the plan.

PLAN 3. Not recommended in general, but may be found useful in herds when only a few reactors are found and where no clinical signs of brucellosis have been noted.

1. Market reactors for slaughter.
2. Retest herd at 30-day intervals removing reactors for slaughter until the entire herd is negative.
3. If the herd is not readily freed of infection, abandon this plan in favor of Plan 1 or Plan 2.

VALIDATED BRUCELLOSIS-FREE HERD PLAN

Validate your herd. A herd is Validated Brucellosis-Free when all breeding swine in a herd, 6 months of age or over, pass a negative blood test, provided any swine herd with a history of brucellosis has first qualified for validation by completing one of the plans for eradicating brucellosis from infected swine herds. Herds are validated for 12 months. This also covers the offspring of the breeding animals in the herd during the validation period.

Revalidate your herd. At the end of the validation period, a herd can be revalidated for another 12 months by conducting a negative herd test of all eligible swine conducted within 10 to 14 months of the last validation date, or establish that at least 20 percent of adult breeding swine were tested under a market swine testing program during the year and that at least one-half of the sampling occurred during the last 6 months of the validation period.

VALIDATED BRUCELLOSIS-FREE AREA PLANS

Areas may be qualified as Validated Brucellosis-Free for a period of 3 years, provided all breeding herds in the eradication area qualify under one of the following plans:

Individual Herd Plan

Negative herd test of all breeding swine 6 months of age or older is required in each herd qualifying by this plan. All complete herd tests must be conducted within the 18-month qualifying period prior to the date validation is requested for the area.

Market Swine Testing Plan

At least 15 percent (10 percent per year or one animal per year, whichever is greater) of all breeding swine 6 months of age or older from each herd are tested in market channels during the 18-month qualifying period. Reactors must be traced to a herd of origin and the herd tested for brucellosis.

ALTERNATE STATEWIDE VALIDATED BRUCELLOSIS-FREE PLAN

An entire State may be Validated Brucellosis-Free for three years if these alternative provisions are followed during the preceeding 1-year period: (a) All herds selling breeding stock are tested and declared Validated Brucellosis Free; (b) 90 percent of all sows, boars, and stags are tested at slaughters; and (c) When reactors are found, the herd of origin is either tested and validated or the entire herd is sent to slaughter. There must be no known brucellosis infected herds in the area at the time of validation.

Further, not more than 3 percent of the herds or one herd, whichever is greater, shall have been found to be infected during the qualification period. There must be no known brucellosis infected herds in the area at time of validation.

AREA REVALIDATION REQUIREMENTS

A validated area may be revalidated for a period of 3 years.

Individual Herd Plan

Negative herd test is required of all breeding swine 6 months of age or older in each herd qualifying under this method. The completed herd tests must be conducted within the 18-month period prior to the date that revalidation is requested for the area.

Market Swine Testing Plan

At least 30 percent (10 percent per year) of the breeding swine 6 months of age or older from each herd are tested in market channels during the 3-year validation period.

ALTERNATE STATEWIDE REVALIDATION REQUIREMENTS PLAN

The entire State may be revalidated if the following procedures are carried out:

a. Ninety percent of all sows, boars, and stags are tested at slaughter during each year of the 3-year validation period; a minimum of 90 percent of the reactors must be successfully traced to the herd of origin and a herd test conducted; all reactors found when slaughtered, including the successful and nonsuccessful tracebacks, and tests of herds of origin must be reported in the state revalidation request.

b. When reactors are found, the herd is tested under one of the three plans listed for eradicating brucellosis from an infected herd.

Further, the accumulated number of infected herds in a validated Brucellosis-Free area may not exceed 5 percent of the herds in the area, or one herd, whichever is greater, over a 3-year validation period. There must be no known infected swine herds in the area at the time revalidation is granted.

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Animal and Plant Health Inspection Service

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